Natural Sciences and Engineering Research Council of Canada

2010–11

Departmental Performance Report

The Honourable Christian Paradis
Minister of Industry and Minister of State for Agriculture

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Minister's Message

Last year, the Industry Portfolio played a key role in advancing the government's agenda in Year 2 of Canada's Economic Action Plan.

Specific stimulus measures taken by the Industry Portfolio under Canada's Economic Action Plan were aimed at boosting economic development, supporting small and medium-sized enterprises, improving Canada's research and development capacity and strengthening communities. The Portfolio's stimulus measures targeted communities through the Marquee Tourism Events Program and the Broadband Canada: Connecting Rural Canadians program. Further investments in the Industrial Research Assistance Program, the Industrial Research and Development Internship Program, the Canada Graduate Scholarships Program and the Knowledge Infrastructure Program expanded Canada's research and development capacity. Investing in the Canadian space industry maintained Canadian expertise and leadership in space robotics. Through these and other stimulus initiatives, we helped create jobs, build communities and nurture the roots of economic recovery.

The Natural Sciences and Engineering Research Council's Departmental Performance Report for the period ending March 31, 2011, describes the Council's achievements, including support for the production and diffusion of new scientific knowledge, the training of highly skilled people, and the establishment of collaborations between universities, industry, and government to increase the rate of innovation flowing into the Canadian economy. The Council works to make Canada a country of discoverers and innovators for the benefit of all Canadians.

Cultivating an environment for job creation, growth and competitiveness, both domestically and internationally, remains a priority for the Industry Portfolio. We will work to improve cost-effectiveness and efficiency and will contribute to the Government of Canada's priority of balancing the budget and achieving real results for all Canadians.

It is my pleasure to present the Natural Sciences and Engineering Research Council's Departmental Performance Report for 2010–11.

The Honourable Christian Paradis

Minister of Industry and Minister of State (Agriculture)

Section I: Organizational Overview

Raison d'être

The vision of the Natural Sciences and Engineering Research Council of Canada (NSERC) is to make Canada a country of discoverers and innovators for the benefit of all Canadians. NSERC aims to maximize the value of public investments in research and development (R&D) and to advance prosperity and quality of life in Canada by supporting the creation and transfer of knowledge in the natural sciences and engineering (NSE) and by ensuring that people are trained to discover, develop and apply knowledge and technology.

Responsibilities

NSERC is a departmental corporation of the Government of Canada created in 1978. It is funded directly by Parliament and reports to it through the Minister of Industry. The functions of NSERC, based on the authority and responsibility assigned to it under the Natural Sciences and Engineering Research Council Act (1976-1977, c.24), are to:

• promote and assist research in the natural sciences and engineering, other than the health sciences; and

• advise the Minister in respect of such matters relating to such research as the Minister may refer to the Council for its consideration.

In 2010-11, NSERC invested just over $1 billion in post-secondary research and training in the natural sciences and engineering. NSERC is the most important funder of the direct costs of research in the NSE in Canadian universities.

NSERC Quick Facts: 2010-11

President: Dr. Suzanne Fortier

Chair: The Honourable James Edwards

Expenditure: $1.08 billion

Head Office: Ottawa, ON

Regional Offices:

- Moncton, NB
- Montreal, QC
- Mississauga, ON
- Winnipeg, MB
- Vancouver, BC

Employees: 372 Full-time Equivalents

Reach:

- 29,200 students and postdoctoral fellows
- 11,800 university professors
- 1,900 Canadian companies
- Over 140 universities and colleges

NSERC's budget represents nine percent of the federal government's expenditures for science and technology and twenty percent of all university R&D funding in the NSE.

Strategic Outcome(s) and Program Activity Architecture (PAA)

To achieve its mandate, NSERC works towards the following strategic outcomes:

1) **People**: Highly skilled science and engineering professionals in Canada – Building a highly skilled, knowledgeable workforce in the natural sciences and engineering by attracting and developing highly skilled science and engineering professionals.

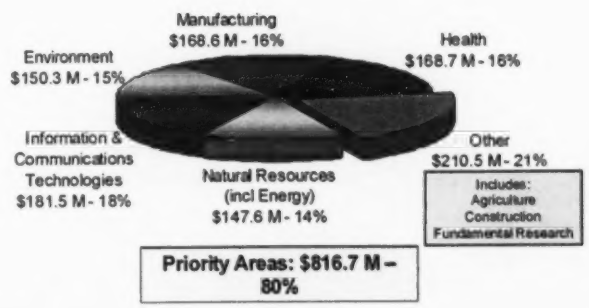
2) **Discovery**: High quality Canadian-based competitive research in the natural sciences and engineering – Unleashing the creativity of our researchers to build on knowledge and create opportunities.

3) **Innovation**: Productive use of new knowledge in the natural sciences and engineering – Seizing strategic opportunities by supporting innovation and the translation of research discoveries to benefit Canada's industry and society.

NSERC's focus on people, discovery and innovation maps directly onto the Federal Science and Technology (S&T) Strategy which emphasizes building a People Advantage, a Knowledge Advantage and an Entrepreneurial Advantage for Canada. Virtually all of NSERC's funding relates to these advantages. In addition, the majority of NSERC's expenditures are in areas that fall under the S&T priorities (natural resources and energy, environment, information and communications technologies, manufacturing, and health) established by the government.

Figure 1.1 highlights NSERC's priority area expenditures in 2010-11. In 2010-11, 80% of NSERC expenditures were in the priority areas, up from 73% in 2001-02.

Figure 1.1
NSERC Expenditures by Priority Area, 2010-11



Excludes administration.

The chart below presents NSERC's Program Activity Architecture (PAA) in effect in 2010-11.

NSERC's Program Activity Architecture

Strategic Outcome 1.0	Strategic Outcome 2.0	Strategic Outcome 3.0
People*	Discovery	Innovation
Highly skilled science and engineering professionals in Canada	High quality Canadian-based competitive research in the natural sciences and engineering	Productive use of new knowledge in the natural sciences and engineering
Program Activity 1.1 : Promote Science and Engineering 1.1.1 PromoScience 1.1.2 Centres for Research in Youth, Science Teaching and Learning 1.1.3 Prizes	**Program Activity 2.1 : Fund Basic Research** 2.1.1 Discovery Grants 2.1.2 Special Research Opportunity Grants 2.1.3 General Support	**Program Activity 3.1 :Fund Research in Strategic Areas** 3.1.1 Strategic Partnerships 3.1.2 Collaborative Health Research Projects*
Program Activity 1.2 : Support Students and Fellows 1.2.1 Undergraduate Student Research Awards 1.2.2 NSERC Postgraduate Scholarships 1.2.3 Alexander Graham Bell Canada Graduate Scholarships* 1.2.4 Georges Philias Vanier Canada Graduate Scholarships* 1.2.5 Postdoctoral Fellowships 1.2.6 Industrial Research and Development Fellowships* 1.2.7 Industrial Research and Development Internships* 1.2.8 Collaborative Research and Training Experience	**Program Activity 2.2 : Support for Research Equipment & Major Resources** 2.2.1 Research Tools and Instruments 2.2.2 Major Resources Support Grants	**Program Activity 3.2 : Fund University-Industry-Government Partnerships** 3.2.1 Collaborative Research and Development Grants 3.2.2 Research Partnership Agreements 3.2.3 Networks of Centres of Excellence* 3.2.4 Business-Led Networks of Centres of Excellence*
Program Activity 1.3 : Attract and Retain Faculty 1.3.1 Canada Excellence Research Chairs* 1.3.2 Canada Research Chairs* 1.3.3 Industrial Research Chairs 1.3.4 Chairs in Targeted Areas of Research 1.3.5 University Faculty Awards		**Program Activity 3.3 : Support Commercialization** 3.3.1 Idea to Innovation Program 3.3.2 College and Community Innovation Program* 3.3.3 Centres of Excellence for Commercialization and Research*

* Programs involving two or more federal granting agencies: NSERC, the Canadian Institutes of Health Research, Canada Foundation for Innovation, Social Sciences and Humanities Research Council.

Organizational Priorities

Performance/Priority Status Legend

Exceeded: More than 100 per cent of the expected level of performance (as evidenced by the indicator and target or planned activities and outputs) for the expected result or priority identified in the corresponding Report on Plans and Priorities (RPP) was achieved during the fiscal year.

Met all: 100 per cent of the expected level of performance (as evidenced by the indicator and target or planned activities and expected outputs) for the expected result or priority identified in the corresponding RPP was achieved during the fiscal year.

Mostly met: 80 to 99 per cent of the expected level of performance (as evidenced by the indicator and target or planned activities and expected outputs) for the expected result or priority identified in the corresponding RPP was achieved during the fiscal year.

Somewhat met: 60 to 79 per cent of the expected level of performance (as evidenced by the indicator and target or planned activities and outputs) for the expected result or priority identified in the corresponding RPP was achieved during the fiscal year.

Not met: Less than 60 per cent of the expected level of performance (as evidenced by the indicator and target or planned activities and outputs) for the expected result or priority identified in the corresponding RPP was achieved during the fiscal year.

Priority	Type	Strategic Outcome
Identify opportunities to streamline and integrate the delivery of the Canada Graduate Scholarships (CGS) with the Social Sciences and Humanities Research Council (SSHRC) and the Canadian Institutes for Health Research (CIHR).	New	People - Highly skilled science and engineering professionals in Canada
Status: Mostly Met		
• In the first quarter of 2011, NSERC, CIHR and SSHRC committed to work towards streamlining and harmonizing scholarship and fellowship applications over the next 4 years, including applications for the CGS program. Initial stakeholder consultations for harmonization of the CGS have taken place.		

Priority	Type	Strategic Outcome(s)
Make efforts to increase available support for postdoctoral fellows to attract the world's top talent to conduct research in Canada through, for example, the Collaborative Research and Training	New	People - Highly skilled science and engineering professionals in Canada

Experience (CREATE) program or the Discovery Accelerator Supplements.		
Status: Met All		
• The new Banting Postdoctoral Fellowships program was launched in 2010 to attract the world's top talent to conduct research in Canada. When the program is fully ramped up in 2012-13, it will support 46 postdoctoral fellows in the natural sciences and engineering each year. • The number of new Discovery Accelerator Supplements available each year was increased from 100 to 125 for the 2010 competition. • The number of active CREATE grants has continued to increase annually. In 2010-11, 58 CREATE grants were available. Each CREATE grant supports 1-2 postdoctoral fellows.		

Priority	Type	Strategic Outcome(s)
Partner with the National Research Council Industrial Research Assistance Program (NRC-IRAP) to create opportunities to place more Industrial Research and Development Fellowships (IRDF) candidates with Canadian small and medium enterprises (SMEs).	New	People - Highly skilled science and engineering professionals in Canada
Status: Exceeded		
• A targeted outreach campaign was implemented instead, to create other opportunities to increase the number of IRDF placements in SMEs. As a result, the IRDF application rate (demand) increased by 26% and the IRDF award rate was increased by 19%. • A partnership with NRC-IRAP'sYouth Employment Program was also considered but found not to be a good fit for NSERC's IRDF program, since IRAP's program targets college and university graduates at the Bachelor level, whereas the IRDF program is oriented towards university graduates at the Doctoral and Post-Doctoral levels. • In February 2011, a partnership with Newfoundland's Research and Development Corporation and the Atlantic Canada Opportunities Agency was implemented to increase IRDF awards in that province and to provide supplementary funding.		

Priority	Type	Strategic Outcome(s)
Review NSERC's suite of scholarship and fellowship programs to ensure optimal results in relation to the evolving environment.	New	People - Highly skilled science and engineering professionals in Canada
Status: Mostly Met		

- This is a multi-year objective. Milestones for the 2010-11 year were mostly met.
- An International Benchmarking Study of NSERC scholarships and fellowships was completed and tabled in June 2011.
- An analysis of industrial training programs was initiated in the first quarter of 2011. An environmental scan has also been completed.

Priority	Type	Strategic Outcome(s)
Enable more students to gain research experience in industry while undertaking advanced studies in Canada.	On-going with new elements	People - Highly skilled science and engineering professionals in Canada
Status: Met All		

- Eligibility for the Industrial Postgraduate Scholarships (IPS) program has been expanded to increase the pool of potential candidates. The number of international students participating in the IPS program continues to increase.
- A new industrial stream has been implemented within the CREATE program and the first awards will be made in 2012.
- The NSERC Ontario Regional Office has increased its collaboration with MITACS-Accelerate Canada to promote adoption of additional industrial training programs by client companies, allowing more students to gain research experience in industry.
- The parameters of the Industrial Research and Development Internship (IRDI) program have been revised to allow delivery of the program by MITACS and the AUTO 21 Network Centre of Excellence initiative, and to complement other federal programs. As a result, the IRDI program has expanded from 400 to 1000 R&D internships over two years, increasing opportunities for more students to train in industry.

Priority	Type	Strategic Outcome(s)
Implement the strategies in Budget 2009 (Canada's Economic Action Plan) to further develop a highly skilled workforce by promoting the training of highly qualified personnel to meet the needs of Canada's knowledge-based economy.	On-going with new elements	People - Highly skilled science and engineering professionals in Canada
Status: Met All		

- The Canada Graduate Scholarships program was expanded with a total of 1,000 additional awards over three years.
- The Industrial R&D Internship program was accelerated by 1 year to deliver 1,000 awards each year.

• NSERC reported quarterly to Treasury Board Secretariat, as part of the Government's monitoring of the impacts of stimulus funding provided through the Economic Action Plan.

Priority	Type	Strategic Outcome(s)
Raise the bar of excellence and creativity by increasing the competitiveness of the Discovery Grants program to provide opportunity for significant increases for those with superior proposals.	New	Discovery - High quality Canadian-based competitive research in the natural sciences and engineering
Status: Met All		
• The new assessment process for Discovery grants ensures that funding is invested in the most productive research. • NSERC has sponsored an assessment on international performance indicators and metrics by the Council of Canadian Academies to evaluate research funding outputs in science and engineering. The assessment will identify best practices for research evaluation and budget allocation in the natural sciences and engineering used in Canada and internationally.		

Priority	Type	Strategic Outcome(s)
Fully implement the new peer review structure by replacing the 28 grant selection committees with 12 broader Evaluation Groups to reflect the evolving research environment, for example, multidisciplinary research.	Previously committed to, with new elements	Discovery - High quality Canadian-based competitive research in the natural sciences and engineering
Status: Met All		
• Building upon the new Evaluation Group structure launched in 2010, processes were implemented for the review of interdisciplinary proposals crossing the boundaries of traditional disciplines for Discovery Grants, Research Tools and Instruments and Discovery Accelerator Supplements.		

Priority	Type	Strategic Outcome(s)
Continue to implement the expansion of the Discovery Accelerator Supplements (DAS) for researchers who can capitalize on research breakthroughs, particularly in the priority areas identified in the	Previously committed to	Discovery - High quality Canadian-based competitive research in the natural sciences and engineering

Federal S&T Strategy.		
Status: Met All		
• The number of new DAS available each year was expanded from 100 to 125 in both the 2010 and 2011 competitions, for a total of 50 additional awards. Nearly two-thirds of the DAS awarded are in research programs that align with government priority areas identified in the Federal S&T Strategy.		

Priority	Type	Strategic Outcome(s)
Enable new faculty with high research potential to firmly launch their research programs and realize their creative potential as competitive contributors to Canada's research, training and innovation base.	On-going	Discovery - High quality Canadian-based competitive research in the natural sciences and engineering
Status: Exceeded		
• The target success rate for funding grants to early-career researchers was surpassed (54% against 50%) in 10 out of 12 Evaluation Groups and there was a sound rationale for the two Groups that had a lower success rate.		

Priority	Type	Strategic Outcome(s)
Build sustainable relationships by facilitating interactions between industry and post-secondary researchers to create a strong foundation for future collaborations.	On-going with new elements	Innovation - Productive use of new knowledge in the natural sciences and engineering in Canada
Status: Exceeded		
• Against a target of 425 grants, NSERC awarded 563 Engage grants in support of new collaborations between industry and post-secondary researchers. • The annual targets for the number of interaction events and the number of researchers involved were also surpassed, 92 industry-oriented awareness events were organized against a target of 42. • NSERC organized or participated in twice the level of joint information sessions (71 against a target of 36), and networking events (36 against a target of 17).		

Priority	Type	Strategic Outcome(s)
Streamline NSERC's existing	On-going with new	Innovation - Productive use of new

innovation-oriented policies and programs to increase the success of academic-industry collaborations and their productivity; and develop new approaches to ease business access to the expertise and specialized facilities within colleges and universities.	elements	knowledge in the natural sciences and engineering in Canada
Status: Met All		
• NSERC added sample clauses to the Intellectual Property policy to make it easier for researchers and their partners to realize research agreements. • NSERC produced guidelines for inclusion of project management expenses in programs that support industry-academic research collaborations, to allow researchers to employ dedicated project management resources that will ensure the integrated coordination of research activities and timely delivery of research results to industry partners.		

Priority	Type	Strategic Outcome(s)
Connect people and skills by advancing "innovation skills" in students and making it more attractive for innovating companies, particularly small companies, to involve students in their business and hire graduates.	On-going with new elements	Innovation - Productive use of new knowledge in the natural sciences and engineering in Canada
Status: Exceeded		
• NSERC developed a collaborative agreement with IRAP and the Atlantic Canada Opportunities Agency to facilitate the hiring of graduates and involvement of students in small and medium enterprises (SMEs). This agreement will allow more students to work with SMEs, in particular with small companies, to gain innovation skills in industry while helping companies innovate.		

Priority	Type	Strategic Outcome(s)
Focus on national priorities by supporting large-scale research groups seizing exceptional opportunities to advance solutions to some of Canada's most challenging economic, environmental and societal problems.	New	Innovation - Productive use of new knowledge in the natural sciences and engineering in Canada
Status: Mostly Met		

- NSERC continues to focus on national priorities by investing 80% of its expenditures on research into the national priority areas of health, Information and Communication Technologies (ICT), environment, manufacturing, natural resources and energy. The Innovation Frontiers Initiative, which supports large-scale research in areas of national priorities, was launched in the fall of 2010.

Priority	Type	Strategic Outcome(s)
Focus NSERC's five regional offices on facilitating industry-academic partnerships.	New	Innovation - Productive use of new knowledge in the natural sciences and engineering in Canada
Status: Exceeded		

- NSERC's five regional offices now deliver Engage grants and provide support for networking and other interaction events. The Regional Offices delivered 563 Engage grants in FY 2010-2011 (the target was 425).
- In addition, the regional offices contacted more than twice the number of companies as their annual target (1580 against 670) and interacted with almost three times the number of companies (4,552 against a target of 1,550) in support of building industry-academic partnerships.

Priority	Type	Strategic Outcome(s)
Continue to implement the industry–driven strategies addressed in Budget 2008 aimed at the automotive, manufacturing, forestry and fisheries sectors. Explore means to increase and sustain existing partnerships across all sectors during the current economic situation.	Previously committed to	Innovation - Productive use of new knowledge in the natural sciences and engineering in Canada
Status: Met All		

- NSERC and its partners have developed the Automotive Partnership Canada and are working to invest $85 million of NSERC funding in partnered research in the automotive sector. In manufacturing, NSERC has allocated $31 million over five years to three new Strategic Networks and at least 22 Strategic Projects. In the forestry sector, NSERC has identified projects developed in collaboration with FP Innovations, to invest $36.5 million over five years. NSERC is investing $24 million over five years in two Strategic Networks and at least 27 Strategic Projects in the fisheries sector.

Priority	Type	Strategic Outcome(s)
Continue to increase the number of partnerships in priority areas identified in the Federal S&T Strategy: environment, energy, health and related life science technologies, and information and communication technologies.	On-going	Innovation - Productive use of new knowledge in the natural sciences and engineering in Canada
Status: Exceeded		
• 350 companies new to NSERC participated in Engage grants in priority areas identified in the Federal S&T Strategy during the reporting period (the target was 225). This number was substantially higher than the 100 companies reported last year.		

Priority	Type	Strategic Outcome(s)
Continue to develop NSERC-Stats, NSERC's new system to track investments including those in priority areas, present an integrated picture of Canada's investments in post-secondary R&D and measure Canada's performance in relation to international benchmarks.	New	All Strategic Outcomes
Status: Met All		
• NSERC-STATS was piloted with over 10 universities and NSERC received positive feedback on the system. NSERC is developing a web-based version for a portion of the NSERC-STATS data that should be available in 2011-12.		

Priority	Type	Strategic Outcome(s)
Ensure compliance with all new policies and frameworks (i.e. Internal Audit, Evaluation, Management Accountability Framework (MAF), and Policy on Transfer Payments).	On-going	All Strategic Outcomes
Status: Met All		
• A comprehensive risk-based 5-year plan for the evaluation of all programs in the NSERC Program Activity Architecture has been approved and implemented. • Important progress was made towards integrated planning and the development of a		

comprehensive corporate plan to support the MAF.

Priority	Type	Strategic Outcome(s)
With SSHRC and CIHR, revise the Tri-Council Policy Statement: Integrity in Research and Scholarship, in consultation with universities and colleges.	New	All Strategic Outcomes
Status: Mostly Met		
• A draft policy on research integrity was completed for consultation with stakeholders in March 2011. Comprehensive stakeholder consultations will take place from August 15-September 30, 2011. • A revised tri-agency policy is expected to be finalized by early 2012.		

Priority	Type	Strategic Outcome(s)
With SSHRC, CIHR and the Canada Foundation for Innovation (CFI), work to improve reporting and integrated measurement of results and impacts of investments in post-secondary research and advanced training.	Previously committed to	All Strategic Outcomes
Status: Met All		
• Common performance indicators have been identified and new methods for measuring results, impacts and outcomes - including the use of comparison groups- are being implemented in the evaluation of tri-agency programs. • NSERC has partnered with CFI to carry out Outcome Assessments for investments in specific Natural Sciences and Engineering priority areas.		

Priority	Type	Strategic Outcome(s)
Showcase the science and engineering community to Key Opinion Leaders (KOLs), including federal government decision makers, key media, industry partners and influential business leaders.	New	All Strategic Outcomes

Status: Met All
• Through 106 events and announcements involving KOLs, NSERC was able to reach new audiences and showcase the benefits of research in science and engineering to Canadians. Key spokespeople presented at 36 conferences including the 9th Canada-Taiwan Conference on Science and Technology in Higher Education and the Canadian Science Policy Conference. • NSERC's partner, the Partnership Group for Science and Engineering, organised 7 presentations on Canadian research accomplishments by NSERC-funded researchers at events for federal government and decision makers at Parliament Hill.

Priority	Type	Strategic Outcome(s)
Increase Canada's awareness of groundbreaking research partnerships that fuel Canada's knowledge-based economy.	Previously committed to, with new elements	All Strategic Outcomes
Status: Met All		
• Over the reporting period, NSERC has been actively involved in partnerships with the Canadian science museum community and Non-Governmental Organizations that promote Canadians' exposure to government-funded research. • NSERC's media outreach over this period has augmented as evidenced by an over 40% increase in references to NSERC in the media.		

Priority	Type	Strategic Outcome(s)
Launch e-Bulletin to increase awareness in industry about benefits of collaborating with academia.	New	All Strategic Outcomes
Status: Met All		
• NSERC published a total of 6 editions of the InPartnership e-bulletin, showcasing academia-industry partnerships leveraged by NSERC's industry programs and targeting the business community in Canada. Each edition of the bulletin was distributed to an average of 8,200 readers.		

Risk Analysis

Operating Environment: NSERC's overall risk level, compared to other government entities, is considered low in terms of continuity of government operations and the maintenance of services to, and protection of the interests of, the Canadian public. In 2007, a Blue Ribbon Panel Report on Grants and Contributions noted the rigorous system of oversight used by the federal granting agencies, including NSERC, and deemed their record of performance to be high by international standards.

Operating Risks: In alignment with Treasury Board Secretariat guidelines and management frameworks, NSERC carried out a major re-examination of its operating risks during the 2010-11 reporting period. As a result, NSERC produced a Corporate Risk Profile (CRP) that formally identifies and assesses risks and builds upon risks previously identified in NSERC's Results-based Management and Accountability Framework and Risk-based Audit Framework. The CRP further develops existing risk mitigation strategies and management measures, and proposes additional control measures to address risks.

The following table lists the five significant risks identified in the CRP, examples of mitigation measures already in place and a number of incremental controls proposed in the CRP to further address those risks:

Risk	Mitigation Strategies
1) Human Resource Capacity The risk that the organization does not have or cannot recruit/retain the required human resources capacity (i.e., number and/or skill sets) to deliver its mandate effectively.	Mitigation measures are already in place. Additional measures proposed in the CRP include development of a council-wide People Management Strategy with specific plans to meet human resources needs associated with business delivery.
2) Information Technology Innovation The risk that the organization does not adequately leverage technology to support the needs of the organization, to promote efficiency, or to innovate (e.g., services and processes).	Mitigation measures are already in place. Existing measures include five-year plans/cycles to replace hardware, working groups to investigate areas with potential for innovation, and an Information Management/Information Technology committee to establish priorities.
3) Operating Budget Management The risk that the organization is ineffective in monitoring operating budgets and making informed and/or accurate decisions.	Mitigation measures are already in place. Additional measures proposed in the CRP include the development of a modernized operating budget management framework, and a detailed plan and timeline for its implementation.
4) Project Management Capability The risk that the organization does not have the required capabilities, tools or	Mitigation measures are already in place.Existing measures include an ad-hoc process for assigning resources to projects, and annual budget planning cycles

dedicated expertise to effectively manage key projects.	which take into account project requirements.
5) Sufficiency of Operating Funds The risk that allocated operating funding is not sufficient to support program/project delivery requirements.	Mitigation measures are already in place. Additional measures proposed in the CRP include integrated planning to enhance linkages between budgets and corporate/business plans.

Summary of Performance

2010–11 Financial Resources ($ millions)

Planned Spending	Total Authorities	Actual Spending
1050.69	1079.80	1075.94

2010–11 Human Resources (full-time equivalents—Full Time Equivalents)

Planned	Actual	Difference
372	372	0

Strategic Outcome: People - Highly skilled science and engineering professionals in Canada

Performance Indicators	Targets	2010–11 Performance
Total researchers per thousand employed relative to other Organization for Economic Development countries	Maintain top 10 world ranking (Canada was 8th in 2007)	Canada currently stands in 14th position in the world and 4th in the G8, ahead of the United Kingdom, Germany, Russia and Italy.

Program Activity	2009–10 Actual Spending ($ millions)	2010–11[1] ($ millions)				Alignment to Government of Canada Outcome
		Main Estimates	Planned Spending	Total Authorities	Actual Spending	
1.1 Promote Science and Engineering[1]	6.63	5.66	5.66	5.66	11.93	An innovative and knowledge based economy
1.2 Support Students and Fellows	159.86	166.08	166.08	167.85	153.76	An innovative and knowledge based economy
1.3 Attract and Retain Faculty[2]	154.59	163.09	175.78	173.40	161.12	An innovative and knowledge

[1] The CREATE program expenditures were misclassified under Program Activity 1.1. instead of Program Activity. 1.2. For this reason, the Actual Spending figure for PA 1.1 in 2010-11 reported here is higher than the figure in the Main Estimates, Planned Spending and Total Authorities for 2010-11, and the Actual spending figure for PA 1.2 appears under spent. This classification error will be addressed and corrected in future reporting. In 2010-11, program expenditures in the CREATE program were $6.27 million.

						based economy
Total	321.08	334.83	347.52	346.91	326.81	

Strategic Outcome: Discovery - High quality Canadian-based competitive research in the natural sciences and engineering

Performance Indicators	Targets	2010–11 Performance
Average number of times that Canadian papers in the NSE are cited by other researchers, i.e. the Average Relative Citation (ARC)factor of Canadian publications in the NSE in comparison with other countries)	Maintain top eight world ranking (Canada was fifth among G8 countries in 2007)	Canada's ARC in the natural sciences and engineering currently ranks 6th and is only slightly behind the top G20 countries (see Figure 2.9). Canada has maintained its 7th place ranking in scientific publication production (see Figure 2.10) and on a per capita basis is the most productive of the G8 (see Figure 2.11).

Program Activity	2009–10 Actual Spending ($ millions)	2010–11 ($ millions)				Alignment to Government of Canada Outcome
		Main Estimates	Planned Spending	Total Authorities	Actual Spending	
2.1 Fund Basic Research[3]	362.90	356.43	356.43	357.92	369.06	An innovative and knowledge based economy
2.2 Support for Research Equipment and Major Resources[4]	74.20	38.49	38.49	44.94	71.04	An innovative and knowledge based economy
Total	437.10	394.92	394.92	402.86	440.10	

[2] In 2010-11 Actual Spending in Program Activity 1.3 was lower than the Planned Spending and Total Authorities figures as a result of an under spend in the Canada Research Chairs program that year.

[3] Actual Spending for Program Activity 2.1 in 2010-11 includes unplanned spending occurring in 2010-11.

[4] Actual Spending in 2010-11 for Program Activity 2.2 is higher than the Total Authorities and Planned Spending because unspent funds from other programs were transferred to the Research Equipment budget within this PA.

Strategic Outcome: Innovation - Productive use of new knowledge in the natural sciences and engineering

Performance Indicators	Targets	2010–11 Performance
Percentage growth in the number of partner companies annually	Greater than five percent per year	In 2010-11, NSERC partnered with over 1,900 Canadian firms to transfer knowledge created in the academic sector to private firms that create economic wealth. This figure represents a 24.3 percent increase in the number of partner companies in 2010-11 from the previous year. Over the past ten years, the average annual growth rate in the number of industrial partners has been almost 12%. Sixty of the top 100 R&D firms in Canada are partners with NSERC.

Program Activities	2009–10 Actual Spending ($ millions)	2010–11 ($ millions)				Alignment to Government of Canada Outcomes
		Main Estimates	Planned Spending	Total Authorities	Actual Spending	
3.1 Fund Research in Strategic Areas[5]	103.97	134.00	134.00	134.08	108.14	An innovative and knowledge based economy
3.2 Fund University-Industry-Government Partnerships	119.88	107.57	107.57	113.10	122.03	An innovative and knowledge based economy
3.3 Support Commercialization	41.48	22.80	40.60	54.34	53.11	An innovative and knowledge based economy
Total	265.33	264.37	282.17	301.52	283.28	

[5] Demand for University-Industry-Government programs under Program Activity 3.2 was higher than expected in 2010-11. In order to accommodate the larger demand for these programs, funding which had initially been planned for Program Activity 3.1 was re-allocated to Program Activity 3.2. Therefore, actual spending for Program Activity 3.2 was higher than the Planned Spending and Total Authorities for that PA; whereas Actual Spending for Program Activity 3.1 appears under spent. This reallocation was unplanned and therefore did not appear in the corresponding Report on Plans and Priorities 2010-11.

Program Activity	2009–10 Actual Spending ($ millions)	2010–11 ($ millions)			
		Main Estimates	Planned Spending	Total Authorities	Actual Spending
Internal Services	27.74	26.08	26.08	28.51	25.75

Expenditure Profile

During the 2010-2011 fiscal year, NSERC spent $1,075.9 million (including the Employee Benefit Plan) to meet the expected results of its program activities and contribute to its strategic outcomes.

Over the three year period from 2008-09 to 2010-11, NSERC has received a base budget increase in Budget 2008 and temporary funding increases in Budget 2009, which have increased its overall spending.

Budgets 2008 and 2009 included funding for specific programs including the College and Community Innovation Program, the Canada Excellence Research Chairs, the Canadian Light Source, increases for research in priority areas (automotive, manufacturing, forestry and fishing), the Industrial R&D Internships (IRDI) program, and for a temporary expansion of the Canada Graduate Scholarships (CGS) program, as part of the Canada Economic Action Plan. The last of the funding received by NSERC as part of Canada's Economic Action Plan for the CGS and IRDI programs was spent in 2010-11.

The figure below illustrates NSERC's spending trend from 2008-2009 to 2010-2011. For the 2008-2009 and 2009-2010 periods, all figures appear as reported in previous Departmental Performance Reports.

Canada's Economic Action Plan (CEAP)

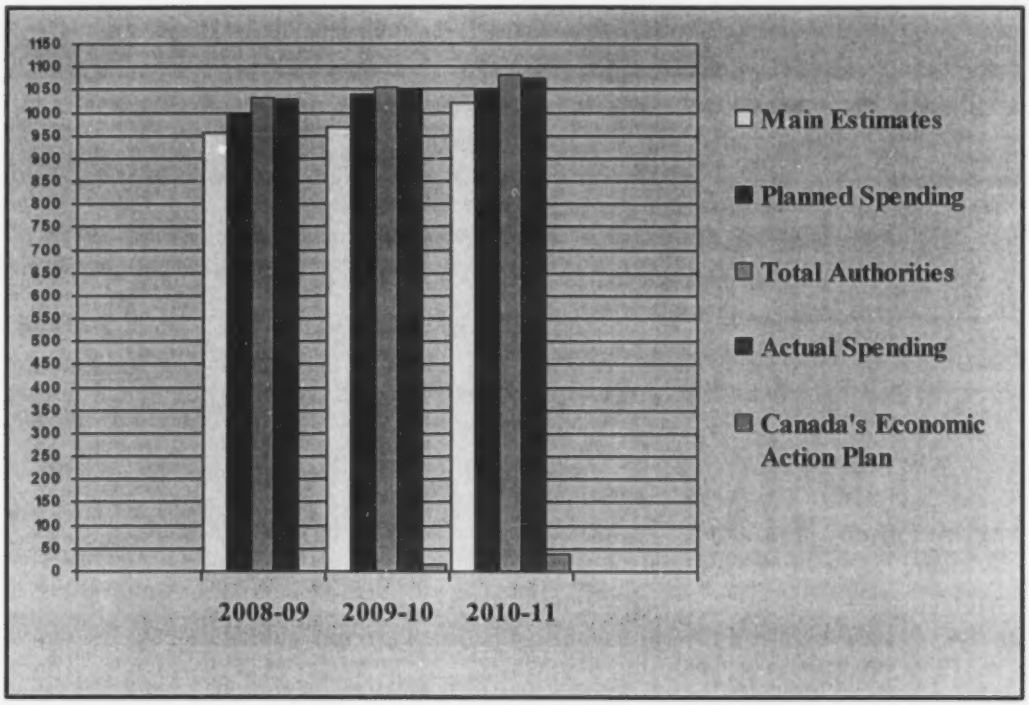
Through Canada's Economic Action Plan (CEAP), the federal government temporarily expanded the Canada Graduate Scholarships (CGS) program which supports Canada's top graduate students. This included $35 million over three years up to 2011-12 for the CGS program to provide an additional 200 doctoral scholarships, and for 400 masters scholarships in both 2009-10 and 2010-11.

Through CEAP, the federal government also provided $3.5 million over two years for an additional 600 graduate internships in science and business, delivered through the Industrial Research and Development Program (IRDI).The IRDI program creates opportunities for skilled graduate students and postdoctoral fellows, by linking them with businesses that foster and utilize their talents.

In 2010-11, NSERC spent the last of the funding for the Canada Graduate Scholarships ($37.5 million) and the Industrial R&D Internship program, ($1 million) which was received in 2009-10

as part of the CEAP initiatives. The $38.5 million in CEAP funding represented 3.6 % of NSERC's total expenditures in 2010-11.

Departmental Spending Trend
($ millions)



Estimates by Vote

For information on our organizational Votes and/or statutory expenditures, please see the 2010–11 Public Accounts of Canada (Volume II) publication. An electronic version of the Public Accounts is available on the Public Works and Government Services Canada website.[6]

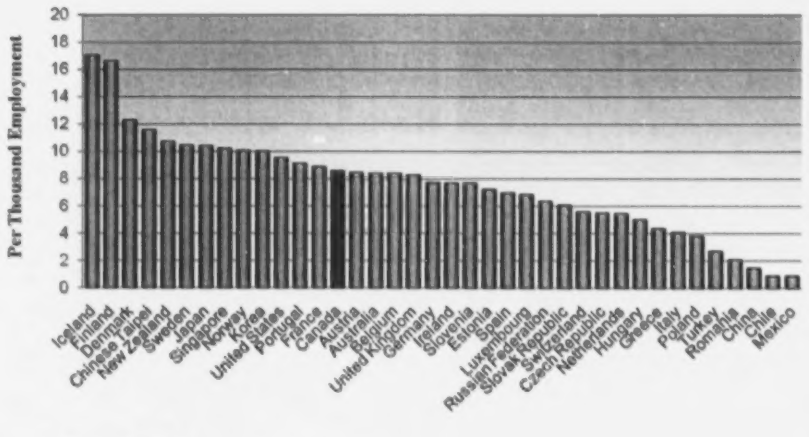
6. See Public Accounts of Canada 2010, http://www.tpsgc-pwgsc.gc.ca/recgen/txt/72-eng.html.

Section II: Analysis of Program Activities by Strategic Outcome

Strategic Outcome People: Highly skilled science and engineering professionals in Canada

In 2010-11, NSERC supported 29,200 students and fellows at Canadian universities and abroad and provided programs to support nearly 11,800 university professors at Canadian universities and to attract leading global researchers to Canada. NSERC also promoted science and engineering to Canadian youth to stimulate their interest in pursuing advanced education, and to ensure a reliable supply of highly skilled workers. Through its investments in people, NSERC helps build a diverse, globally-competitive and technologically advanced knowledge-based economy for Canada. Figure 2.1 presents the total researchers per thousand employed relative to other Organization for Economic Cooperation and Development (OECD) countries. Canada is currently in 14th place, ahead of Germany, Australia and the United Kingdom.

Figure 2.1
Number of Researchers Per Thousand Employment, 2009 or Most Recent Year



Source: OECD.

Program Activity: Promote Science and Engineering

Program Activity Description

This program activity encourages popular interest in science, math and engineering and aims to develop science, math and engineering abilities in Canadian youth.

2010–11 Financial Resources ($ millions)

Planned Spending	Total Authorities	Actual Spending
5.66	5.66	11.93

2010–11 Human Resources (FTEs)

Planned	Actual	Difference
1	1	0

Expected Results	Performance Indicators	Targets	Performance Status
Student interest in research in the sciences, math and engineering is encouraged	Percentage of science promotion projects that successfully complete the planned activity	Greater than 80%	Exceeded - Post award surveys indicate that 86% of PromoScience grants successfully fulfill the objectives of the grant.

Key Programs		
Program	**Description**	**Expenditures 2010-11 ($ millions)**
PromoScience	PromoScience provides support to non-profit and public organizations that work with young Canadians in order to build their interest in science and engineering, motivate and encourage their participation in science and engineering activities, and train teachers who are responsible for the science and math education of young Canadians.	2.7
Prizes	NSERC prizes recognize outstanding individual Canadian researchers, research teams and students. They enhance the career development of outstanding and highly promising scientists and engineers and distinguish the sustained excellence of faculty members at Canadian universities. They also publicly recognize lasting partnerships in R&D between university and industry and celebrate young Canadian entrepreneurs.	2.7

Performance Summary and Analysis of Program Activity

The PromoScience program allows organizations active in science promotion to expand their efforts and engage many more young Canadians, especially girls and aboriginal youth. A final report was submitted at the end of each PromoScience grant. For grants ending in 2010-11, 86% of recipients rated the outcome of the grant as successful.

The grants have enabled recipient organizations to reach hundreds of thousands of Canadian youth and promote a science culture. The profile of one of the 2010-11 PromoScience recipients is presented below.

PromoScience Recipient – Bamfield Marine Sciences Centre

PromoScience funding supports the Bamfield Marine Sciences Centre's Public Education Program, which promotes science and science careers to youth through field trips, professional development workshops for teachers, youth forums, and youth-targeted outreach.

During field trips, youth are immersed in science, particularly oceanography, and are supported to design experiments, collect and analyze data and share the results with their peers. This approach encourages the integration of geology, physics, chemistry, math and technology with biology.

While the Public Education Program primarily reaches youth living within British Columbia, the PromoScience grant has helped the Bamfield Marine Sciences Centre expand its reach to a national level. Schools across Canada are now able to participate in the program through Live Labs and Live Dives using video-conferencing and diving technology. All of the resources developed for remote participation facilitate engaged learning. The activities supported by NSERC reach close to 4,000 participants, including 450 teachers every year. Through their involvement with the program, youth learn that they have a significant role to play in shaping the new generation of discoverers and innovators.

In 2010-11, NSERC awarded significant research prizes to individuals and teams of Canadian research scientists and engineers, to recognize their important achievements, and, in the process, to help retain faculty in Canada. The profile of the 2010-11 winner of NSERC's Gerhard Herzberg Canada Gold Medal for Science and Engineering is presented below.

Geoffrey Hinton, Computer science - University of Toronto

The staggering volume of data available today has generated a growing need for automated systems that can spot patterns, learn from examples, understand the "big picture" and make predictions. This trend makes machine learning one of the most important frontiers in modern science.

The University of Toronto's Geoffrey Hinton is among the world's foremost researchers in the field. His contributions to machine learning and artificial intelligence have benefited virtually every discipline in science, engineering, social science and medicine.

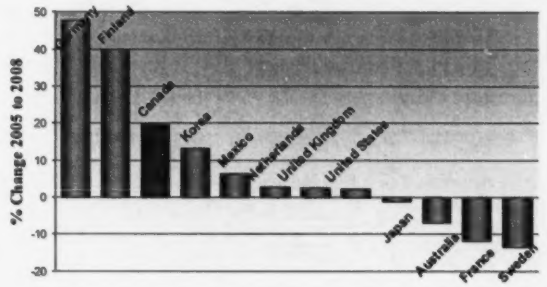
As a result of Dr. Hinton's research, computers are now better at finding complicated patterns in scientific, medical, economic or other data. He has developed algorithms used in applications such as creating better systems for voice recognition, automatically reading bank cheques and monitoring industrial plants for improved safety. Dr. Hinton has also contributed to cognitive psychology and neuroscience by proposing influential theories of how the brain generates its internal representations of the visual world from the sensory input it receives from the eyes.

Dr. Hinton's numerous international awards include the inaugural David E. Rumelhart Prize in 2001, which recognizes outstanding contributions to the theoretical foundations of human cognition. He also received the 2005 International Joint Conferences on Artificial Intelligence Research Excellence Award, a prestigious honour that has been awarded to only 12 recipients over the past 24 years.

Canada's per capita production of science and engineering university degrees at all levels lags behind many of its major competitors. The situation, however, is improving. Canada is amongst the top OECD countries in terms of the percentage change in the number of university degrees granted in science and engineering from 2005-2008 (see Figure 2.2).

Canada's number of degrees granted in science and engineering increased 19.9 percent from 2005 to 2008; a much higher rate than that of the United States, Japan and the United Kingdom and at a rate which was only surpassed by Finland and Germany.

Figure 2.2
Percentage Change in Total Number of Degrees Granted in Science and Engineering from 2005-2008, for Selected OECD Countries



Source: OECD.

Program Activity: Support Students and Fellows

Program Activity Description

This program activity supports training of highly qualified personnel through scholarship and fellowship programs.

2010–11 Financial Resources ($ millions)

Planned Spending	Total Authorities	Actual Spending
166.08	167.85	153.76

2010–11 Human Resources (FTEs)

Planned	Actual	Difference
24	30	6

Expected Results	Performance Indicators	Targets	Performance Status
A supply of highly qualified people with leading-edge scientific and research skills for Canadian industry, government, and universities.	(1) Percentage of students supported that are actively employed in Canada after graduation. (2) Average completion rates among NSERC award recipients vs.	(1) 75% (2) Completion rate 10% greater than general NSE student population	(1) Exceeded - 82% of students supported were working in Canada 9 years after their award. More than half of those abroad were planning to come back to Canada.

	general natural sciences and engineering (NSE) student population		(2) Exceeded - The completion rate of NSERC award recipients was 17% higher than the general NSE population. 97% of respondents completed the degree (master's or doctoral) for which they received NSERC funding vs. the overall degree completion of 80%.

Key Programs		
Program	**Description**	**Expenditures 2010-11 ($ millions)**
Undergraduate Student Research Awards	Held in university (3,254) or industry laboratories (875), this program provides funding for an undergraduate student to spend a four-month work term in a university or industrial research environment.	18.5
NSERC Postgraduate Scholarships	At the master's (269) and doctoral (1,599) levels, NSERC supports students by providing an annual stipend that enables them to continue to pursue their research interests. Up to four years of support is available over the course of a candidate's graduate studies. Opportunities for study at institutions in Canada and abroad as well as at Canadian industrial laboratories (555) are available.	41.2
Canada Graduate Scholarships (CGS)	Canada Graduate Scholarships (tenable only at Canadian universities) are awarded to the most outstanding candidates at the master's (1,033) and doctoral (1,115) levels. The CGS Michael Smith Foreign Study Supplements (57) allow CGS scholars to pursue short-term training outside the country.	62.1
NSERC Postdoctoral and Industrial R&D Fellowships	These two-year awards support researchers who have completed their doctoral programs, and provide them with funds to continue their programs of research. The awards may be held at any academic institution through a Postdoctoral Fellowship (526), or at a Canadian company that conducts research through an Industrial R&D Fellowship (225).	21.7

Performance Summary and Analysis of Program Activity

In 2010-11, NSERC provided direct financial support to students from the undergraduate to postdoctoral levels, through key programs. NSERC also funds students and fellows indirectly through support provided by NSERC-funded professors from their NSERC grants.

All of NSERC's scholarship and fellowship programs are achieving their objectives and funded students are going on to well-paying and productive jobs in Canada. Almost all (97%) of NSERC-funded students complete their degree, and they do so at a much higher rate than unfunded students (80%).

Since its creation in 1978, NSERC has supported the training of nearly 95,000 master's and doctoral students in the NSE through programs such as the Industrial R&D Fellowships Program (IRDF) and the Undergraduate Student Research Award Program (USRA).

Industrial R&D Fellowships Program: A summative evaluation of the IRDF program covering the 8 year period from 2000-2008 was initiated in 2010-11. A summary of the preliminary file review is presented below:

Evaluation Results

Industrial R&D Fellowships Program

- Almost all the companies (93%) and IRDF fellows (95%) considered the projects to have been successful.
- Most companies reported that the IRDF program met their needs (91%) and that it had improved their R&D capability (80%).
- Two-thirds of IRDF fellows were offered continuing employment by the company after completion of their fellowship. The large majority (90%) of employment offers were in positions related to R&D.
- One-third of partnerships resulted in technology transfers from the university to the company.
- Over half of the participating companies (more than 70%) were Small and Medium Enterprises (SMEs).

Undergraduate Student Research Awards: A summative evaluation of the USRA program for the period covering 1999-2006 was also initiated in 2010-11. A preliminary summary of the survey findings is presented below:

Evaluation Results

Undergraduate Student Research Awards Surveys 1999-2006

- Most award holders (77%) report that their USRA experience increased their desire to pursue graduate studies and improved their chances of getting into graduate school (74%).
- The vast majority of industry supervisors (90%) agreed that the USRA experience is an important tool to motivate students to pursue a research career in industry.
- Over 9 in 10 industry supervisors agree that USRA holders contributed to their organization by making it possible to complete their research more efficiently and improving their research productivity.
- Almost all industry supervisors (90%) contributed greatly to making students "job ready" for employment in industry.
- The majority of USRA award holders (85%) believe that their project management and analytical skills improved to a great extent as a result of their USRA experience.
- Over 80% of industry supervisors in the USRA program come from small and medium businesses.

NSERC conducts ongoing surveys of funded students at all levels. The table below highlights important achievements of NSERC-funded postgraduate students and fellows:

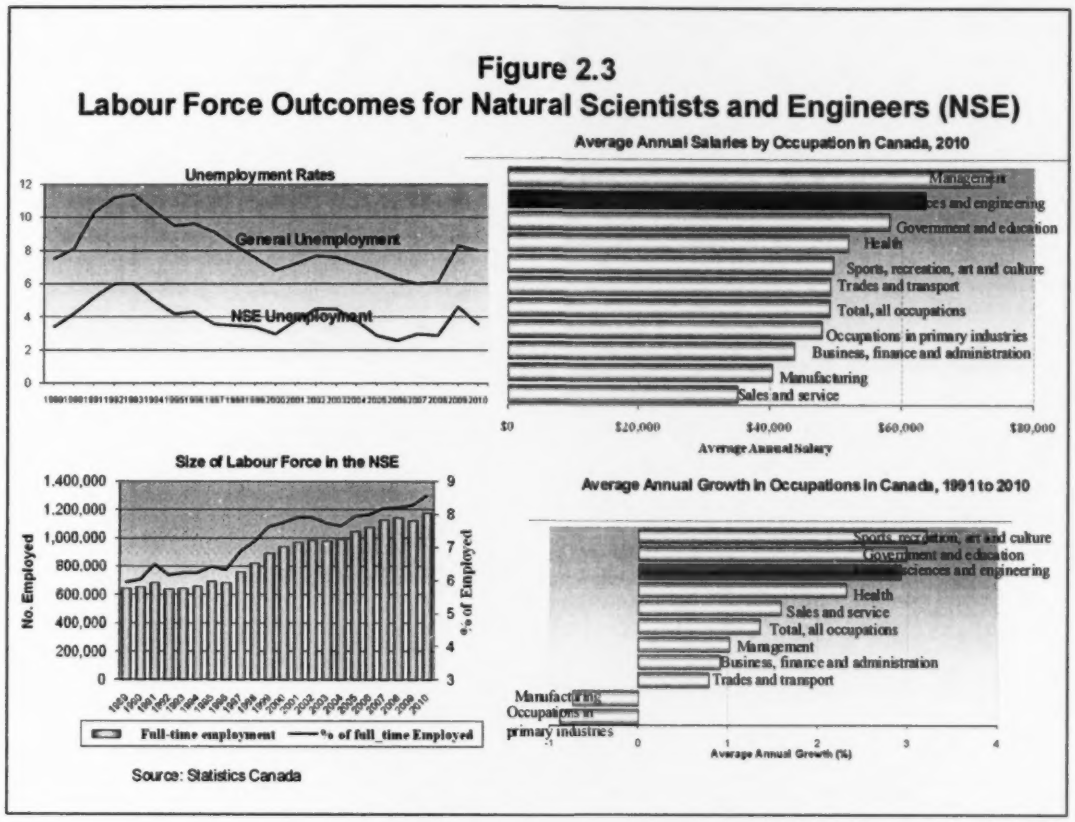
Postgraduate Students	Short-term Outcomes*	• 49% report that NSERC funding was "very important" to their decision to continue to graduate studies; • 97% of the respondents completed the degree (master's or doctoral) for which they received NSERC funding; • Nearly 47% of the students believed that NSERC funding would help them complete their degree faster; and • Average scientific output per student of 1.6 journal publications, 1.3 conference proceedings, 1.4 conference presentations, and 1.6 poster sessions.
	Longer-term Outcomes**	• Graduates experience far less unemployment (2.4%) than the national average (approximately 7%). 82% of students supported were working in Canada 9 years after their award. More than one-half of those abroad were planning to come back to Canada • The vast majority (93%) have found full-time employment. • Nearly two-thirds (63%) report research and development activities are part of their position. • Incomes are much higher than the Canadian average, with more than 74% earning more than $65,000 a year; and • 68% report their graduate training was "critical" to their current employment.
Postdoctoral Fellows	Short-term Outcomes*	• For 94% of Post-doctoral fellows (PDFs), NSERC funding was moderately to very important in their decision to continue with their research in an academic environment. • Average scientific output per fellow of 3.6 journal publications, 1.6 conference proceedings, 1.4 conference presentations and 1.3 poster sessions. • 96% of respondents felt that their PDF award would improve their prospects of finding employment in a relevant area; and • Nearly 75% of PDF holders would repeat their decision to pursue a postdoctoral position after their doctoral degree.
	Longer-term Outcomes**	• PDF holders have an unemployment rate of 0%. • 82% of PDFs are earning more that $75,000 per year. • 71% of PDF holders obtained faculty positions at universities and now train the next generation of scientists and engineers; • The vast majority (89%) are still engaged in research, either as a university professor, research scientist or engineer; and • 78% of PDFs report their postdoctoral training was critical to their careers.

* Data from on-going exit surveys after completion of the NSERC scholarship or fellowship.

** Data from career surveys nine years after NSERC scholarship award or seven years after NSERC fellowship

General macro-level economic outcomes for university graduates in the natural sciences and engineering provide evidence for the positive outcomes of NSERC-funded students.

As Figures 2.3 below demonstrates, unemployment levels for job-seekers in the natural science or engineering occupations are considerably below national levels; annual salaries for this group are 30% greater than the national average for all occupations; and employment opportunities continue to grow as the natural science and engineering labour force is set to surpass the 1.1 million mark, resulting in the fastest growing occupational group over the past 20 years.



Increasing women's participation in science and engineering: In November 2010, NSERC partnered with Engineers Canada and Research in Motion, to bring together leaders from academia, the private sector, policy makers and students at a Summit focused on maximizing opportunities for increasing women's participation in science and engineering. The Summit demonstrated a clear need for sustained efforts to foster women's participation in the natural sciences and engineering fields. It also allowed businesses, colleges and universities to share best practices aimed at attracting more women to careers in science and engineering and retaining those already in them.

Program Activity: Attract and Retain Faculty

Program Activity Description

This program activity aims to attract and retain faculty.

2010–11 Financial Resources ($ millions)

Planned Spending	Total Authorities	Actual Spending
175.78	173.40	161.12

2010–11 Human Resources (FTEs)

Planned	Actual	Difference
11	10	1

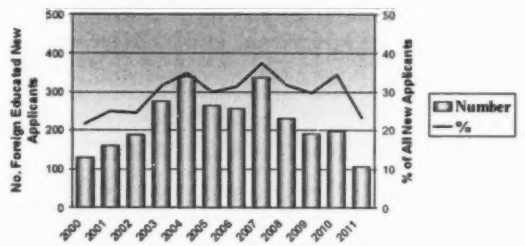
Expected Results	Performance Indicators	Targets	Performance Status
Enhanced research capacity in science and engineering	(1) Number of foreign-educated new applicants to NSERC's Discovery Grants program (2) Number of NSERC-funded professors leaving the country (3) Number of industrial partners supporting and participating in industrial chairs	(1) Greater than 100 per year (2) Less than 100 per year (3) Five percent growth per year	(1) Exceeded - In the year 2010-11, 107 new Discovery applicants were foreign-educated. Canada continues to attract faculty from abroad in large numbers (see Figures 2.4 and 2.5). (2) Met All - In 2010-11, only 13 NSERC-funded professors left Canada (see Figure 2.6). (3) Somewhat Met – In 2010-11, there was a relative decline of 6%. However, the average growth has been 3.2% over the past ten years (see Figure 2.7).

Key Programs		
Program	Description	Expenditures 2010-11 ($ millions)
Canada Research Chairs	This tri-agency (NSERC, CIHR and SSHRC) program provides financial support for up to 2,000 researchers across Canada, including 900 positions within the NSE. The key objectives of this program are to enable Canadian universities to achieve the highest levels of research excellence and to become world-class research centres in the global knowledge-based economy.	117.5
NSERC Industrial Research Chairs	NSERC's Industrial Research Chairs program helps universities build the critical mass of expertise and long-term relationships with corporate partners in areas of research that are of importance to industry. Industrial Research Chairs can also enhance the ability of universities to recruit senior-level researchers and research leaders from industry or other sectors.	24.5

Performance Summary and Analysis of Program Activity

Figure 2.4 presents the number of new applicants to NSERC's largest program, the Discovery Grants program, who received both their bachelor's and doctoral degrees outside Canada- this number represents a good approximation of performance in terms of attracting leading faculty from abroad to Canada, since the vast majority of new professors in the natural sciences and engineering apply to the program.

Figure 2.4
Number of Foreign Educated[1] New Applicants to NSERC's Discovery Grants Program



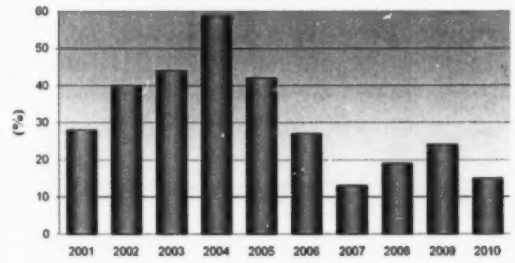
1. Applicants who earned both an undergraduate and Ph.D. degree outside Canada.
Source: NSERC.

As Figure 2.4 indicates, Canadian universities have continued to attract hundreds of foreign educated personnel every year to become professors. On average, 30 percent of first-time NSERC applicants are foreign educated.

Canada Research Chairs: The Canada Research Chairs program has helped create a research environment that is conducive to the long-term retention and attraction of top researchers in Canada. A significant number of Chair holders have been attracted from abroad and many top Canadian scientists have stayed in Canada as a result of Chair support.

Figure 2.5 presents the percentage of foreign recruits awarded a Canada Research Chair in the natural sciences and engineering since the program's inception. (Note: fluctuations in Figure 2.5 are due to small cohorts in some years.)

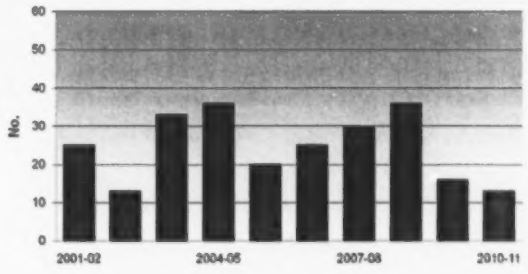
Figure 2.5
Canada Research Chair (NSERC) Recruitment from Abroad by Year (% of Chairs)



Source: Canada Research Chair Secretariat.

NSERC also tracks the reasons grantees provide when they terminate their awards before the end date. Only a small number of professors receiving NSERC support listed "leaving the country" as the reason for terminating their award over the past decade, as shown in Figure 2.6. The number of NSERC-funded professors leaving the country is an extremely small percentage of the nearly 12,000 professors receiving NSERC support each year and is much smaller than the number of new professors attracted to Canada each year. In 2010-11 this number was 13, compared to the more than 100 new professors recruited. (See Figures 2.4 and 2.5)

Figure 2.6
Number of NSERC-Funded Professors Leaving the Country



Source: NSERC.

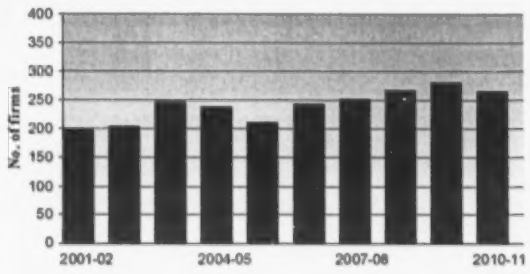
Recent investments by the government in university research have also created an attractive environment to conduct research in Canada for highly trained people from other countries. The new Canada Excellence Research Chairs and the Industrial Research Chairs are two examples of NSERC programs which serve to attract and retain leading Canadian and foreign educated researchers in Canada.

Industrial Research Chairs: The number of industrial partners participating in the Industrial Research Chairs program (IRC) is presented in Figure 2.7. The average annual growth in the number of partners over the past ten year period has been 3.2%, slightly below NSERC's target of 5%. There was a small decline in the number of partners in 2010-11, but it is too early to tell whether this represents a trend or whether it is related to normal fluctuations in the data.

The relative decline seen in industry participation in the IRC program during 2010-11 can be attributed to the lower demand seen for the program seen that year. This lower demand in turn, is likely linked to the trend of lower levels of industrial R&D spending, as measured by the weak BERD (Business Expenditures in R&D), and as noted by the Science, Technology and Innovation Council in their State of the Nation Report 2010[7].

[7] State of the Nation 2010- Imagination to Innovation, Building Canadian Paths to Prosperity: Science, Technology and Innovation Council, June 2011.

Figure 2.7
Number of Industrial Partners Participating in the Industrial Research Chairs Program



Source: NSERC database.

A profile of one of the 2010-11 Industrial Research Chair recipients, Yusuf Altintas of the University of British Columbia, is presented below.

Yusuf Altintas
NSERC/Pratt & Whitney Canada Industrial Research Chair in Virtual High-Performance Machining

Canadian manufacturers from different industry sectors are gaining a competitive edge with a new virtual cutting system that enables them to machine parts correctly, cost effectively and in the shortest amount of time.

The underlying technology was developed and commercialized in 1999 by Dr.Yusuf Altintas at University of British Columbia, with financial support from NSERC, Pratt and Whitney Canada (P&WC), Boeing and General Motors. Canadian companies were the first to exploit the machining technology, which companies from around the world have now begun licensing and which could become the norm over the next five to ten years.

In 2002, NSERC and P&WC provided funding to establish an Industrial Research Chair in Virtual High-Performance Machining, led by Dr. Altintas, who is developing a system that can mathematically model and optimize machining processes. The current approach used in industry involves costly and time-consuming trials. With the Chair's virtual machining system, operators are able to produce more repeatable and consistent results.

Another initiative, the Canadian Network for Research and Innovation in Machining Technology, was launched in 2010. The network was established with funding from NSERC and P&WC and brings together eight large and smaller manufacturers, seven universities and two federal government departments.

The Chair is one of the world's foremost experts in the field of virtual machining and has trained over 130 post graduate students over the past 25 years.

Canada Excellence Research Chairs: The Canada Excellence Research Chairs Program is a tri-agency initiative established in 2008 to attract Canadian and international leading researchers who can positively contribute to Canada's global competitiveness. The Chairs' research focuses on the federal government's priority research areas. In May 2010, the first group of Canada Excellence Research Chairs was announced. A profile of Dr.Ali Emad, Canada Excellence Research Chair in Hybrid Powertrain at McMaster University, is presented below.

Ali Emadi
Canada Excellence Research Chair in Hybrid Powertrain – McMaster University

The automotive industry is currently undergoing a major paradigm shift. Engineers around the world are competing to build the next generation of cost-effective, energy-efficient cars. Plug-in hybrid vehicles are at the forefront of this shift and are expected to become one of the main forms of transportation in Canada and across the globe by 2030.

One of the keys to engineering the next generation of hybrid electric cars will be improving their powertrain, which transmits propulsion power. Dr. Ali Emadi is at the leading edge of new developments in transportation electrification. He is internationally recognized for his in-depth research on hybrid electric vehicle powertrains and electric drives.

Prior to his appointment in Canada, Emadi was a Professor of Engineering and director of the Electric Power and Power Electronics Centre at the Illinois Institute of Technology. He also founded and served as president of spin-off company Hybrid Electric Vehicle Technologies, Inc. He has been awarded several patents, including one for his design of the digitally controlled electric motor—an energy-efficient motor available to manufacturers of everyday appliances at a lower cost than earlier versions of electric motors. Emadi's research provides solutions that meet the current demands of the Canadian automotive sector, helping Canada's economy grow and remain globally competitive with a strong position in the green energy economy.

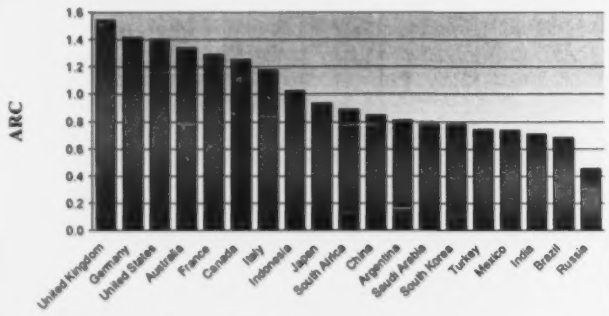
Strategic Outcome Discovery: High quality Canadian-based competitive research in the natural sciences and engineering

NSERC promotes and enables global excellence in discovery research. Basic research provides the foundation for all scientific and technological advances, and to train the people who will generate new knowledge in Canada and who can understand the new knowledge generated around the world. Having a solid capacity for basic research across a broad range of fields in natural sciences and engineering and in rapidly evolving fields, such as Information and Communication Technologies, ensures that Canada remains a leader in knowledge creation and competitive on the world stage.

One of the first tangible outcomes of an investment in university R&D is a publication in a scientific or engineering journal. Nearly 90% of Canada's scientific and engineering publications are produced by university researchers. Therefore, publications are a good indicator of outcomes from NSERC research funding and can be used to benchmark our performance against the rest of the world.

Citations are a measure of the potential use of a researcher's work by fellow researchers. Based on the number of citations received by papers over the three years following the publication year, a standardized measure called the Average Relative Citation Factor (ARC) is calculated for each country. The world average is then normalized to a value of 1.0. Figure 2.8 presents the ARC values in the natural sciences and engineering (NSE) for G20 countries. In 2010-11, Canada maintained its 6th ARC ranking in the NSE amongst the G20.

Figure 2.8
Average Relative Citation Factor (ARC) in the NSE, 2010, G20 Countries



Source: Observatoire des sciences et des technologies.

Program Activity: Fund Basic Research

Program Activity Description

This program activity invests in discovery through grants focusing on basic research activities.

2010–11 Financial Resources ($ millions)

Planned Spending	Total Authorities	Actual Spending
356.43	357.92	369.06

2010–11 Human Resources (FTEs)

Planned	Actual	Difference
53	53	0

Expected Results	Performance Indicators	Targets	Performance Status
The discovery, innovation and training capability of university researchers in natural sciences and engineering is enhanced by the provision of support for ongoing programs of basic research	(1) World ranking in number of publications (2) Percentage of funds spent on training of students and postdoctoral fellows (3) Higher education expenditure on R&D (HERD) as a percentage of gross domestic product (GDP) compared to G8 countries	(1) Maintain top 10 world ranking (Canada was 7th in 2005). (2) 35 percent (3) Maintain current world ranking (Canada was first in 2007 among G8 countries).	(1) Met All - Canada is within the top 10 world rankings. It has maintained its 7th place world ranking in publication production (see Figure 2.10). (2) Exceeded - In 2010-11, 45.2% of Discovery Grants funds were used to support students and fellows (see Figure 2.12). (3) Met All - In 2010-11, Canada stayed in 1st place in the HERD ranking as a % of GDP in the G8 (see Figure 2.13).

Key Program		
Program	**Description**	**Expenditures 2010-11 ($ millions)**
Discovery Grants	The Discovery Grants program is the mainstay of support for university-based research. The program provides funding for ongoing programs of research. Researchers are free to work in the mode most appropriate for the research area and they may pursue new research interests provided they are within NSERC's mandate. To be funded, they must demonstrate both research excellence and high productivity, and contributions to the training of highly qualified people.	345.0

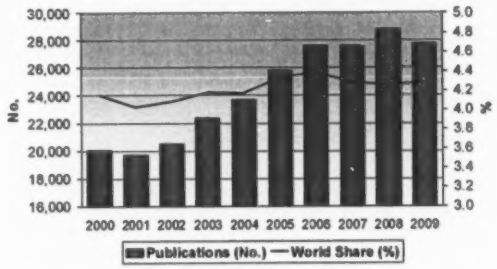
Performance Summary and Analysis of Program Activity

Canada is among an elite group of countries publishing a significant number of articles in science and engineering journals. Since the beginning of the century, Canadian researchers (all sectors) in NSE have increased their annual production of publications from roughly 20,000 per year to current averages of approximately 28,000 publications per year, as shown in Figure 2.9.

Overall, Canada's world share of NSE papers stood at 4.3% in 2009, ranking seventh in the world (see Figure 2.10).

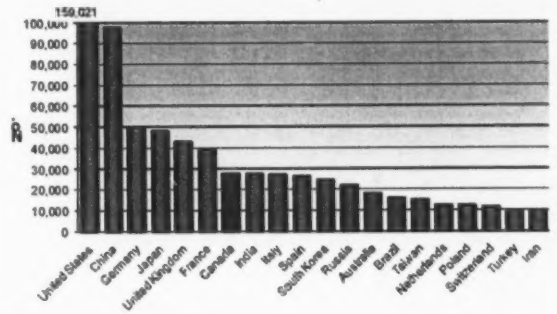
Another indicator of productivity related to scientific publication production is a measure of a country's output of NSE publications per capita population. Figure 2.11 presents the 2009 per capita output per one million inhabitants for the G8. Using this criterion, Canada has the highest per capita output.

Figure 2.9
Number of Canadian Publications in the NSE and World Share



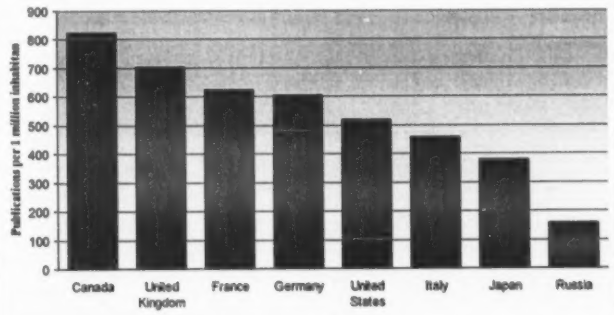
Source: Observatoire des sciences et des technologies.

Figure 2.10
Top 20 Countries in Scientific Article Production in the NSE, 2009



Source: Observatoire des sciences et des technologies.

Figure 2.11
Per Capita Output of Publications in the NSE, 2009

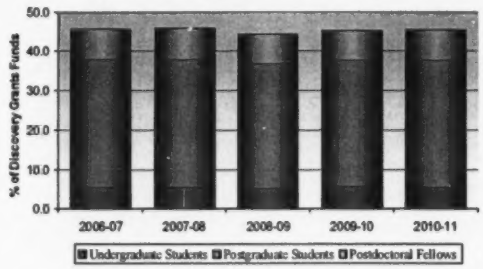


Sources: Observatoire des sciences et des technologies and OECD.

Discovery Grants: Each year, over 45% of the Discovery Grants program expenditures are used by professors to support students at the undergraduate, masters, doctoral levels and postdoctoral fellows (see Figure 2.12). In 2010-11, 10,800 students and fellows were supported by Discovery Grants funding.

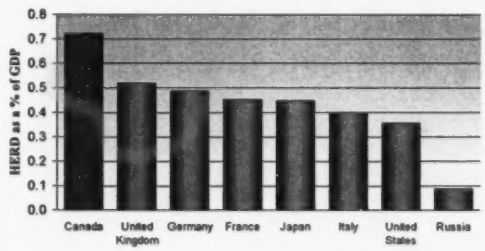
When measured as a percentage of GDP, Canada spends more on university research than all of its G8 competitors (see Figure 2.13).

Figure 2.12
Percentage of Discovery Grants Funds Used to Support Students and Fellows



Source: NSERC database.

Figure 2.13
Higher Education R&D (HERD) as a Percentage of GDP, 2009 or Most Recent Year



Source: OECD.

Program Activity: Support for Research Equipment and Major Resources

Program Activity Description

This program activity helps to support the establishment, maintenance and operation of the research equipment, major research resources and research capacity necessary to carry out high quality research in the natural sciences and engineering.

2010–11 Financial Resources ($ millions)

Planned Spending	Total Authorities	Actual Spending
38.49	44.94	71.04

2010–11 Human Resources (FTEs)

Planned	Actual	Difference
10	10	0

Expected Results	Performance Indicators	Targets	Performance Status
The discovery, innovation and training capability of university researchers in the natural sciences and engineering is supported by their access to research equipment and major regional or national research facilities	(1) Average number of researchers benefiting from equipment awards. (2) Average number of researchers benefiting from a Major Research Support (MRS) Award.	(1) Over 1500 (2) Greater than 10	(1) Mostly Met - In 2010-11, 1,206 researchers benefited from an NSERC Research Tools and Instruments (RTI) grant (see Figure 2.14). (2) Met All - In 2010-11, NSERC supported an average of 20 researchers per MRS award (see Figure 2.15).

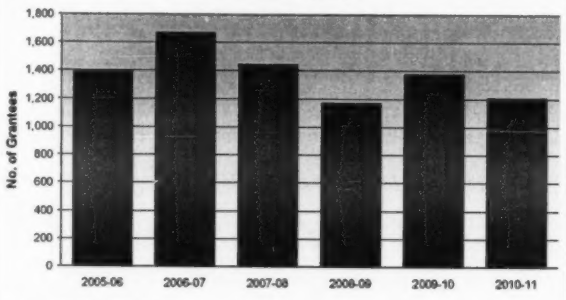
Key Programs		
Program	**Description**	**Expenditures 2010-11 ($ millions)**
Major Resources Support	The MRS program supports researchers' access to major regional or national research facilities by assisting these facilities to remain in a state of readiness for researchers to use. This program is the vehicle for NSERC investments in facilities such as the Canadian Light Source synchrotron in Saskatoon.	38.1
Research Tools and Instruments Grants	Canada Foundation for Innovation funding enhances the laboratory setting by funding major equipment and infrastructure purchases. RTI grants enable professors to purchase the smaller pieces of laboratory equipment necessary to conduct world-class research. This critical source of funding ensures researchers have access to the modern research tools required to ensure the maximum return on other investments in research, such as Discovery Grants.	31.9

Performance Summary and Analysis of Program Activity

It is difficult for researchers to find funding for small equipment and NSERC is a major source. NSERC's Research Tools and Instruments funding provides necessary equipment that leads, in general, to more, faster and more in-depth research as well as better trained students. These impacts are felt across the spectrum of disciplines, in all regions and in large and small institutions.

Research Tools and Instruments: Figure 2.14 highlights the number of researchers benefiting from an NSERC RTI grant. The slight drop in the number of researchers benefiting from an RTI grant, relative to 2009-10 numbers, is attributable to a decrease in the budget available for the program in 2010-11.

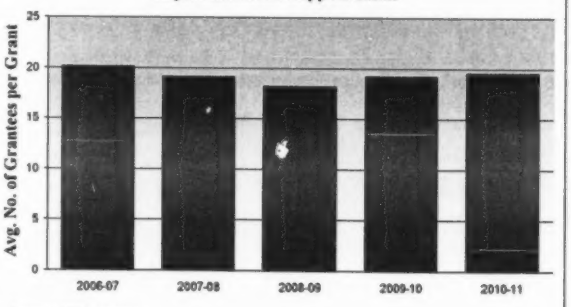
Figure 2.14
Number of Researchers Benefiting from an NSERC Research Tools and Instruments Grant



Source: NSERC database.

Major Resources Support: The Major Resources Support (MRS) program leads to a better use of the funded facilities, increased collaboration among researchers and improved international competitiveness of Canadian researchers. The program also complements CFI funding for several facilities, such as the Canadian Light Source Synchrotron, by providing the necessary operating and maintenance support to fully utilize the facilities. Figure 2.15 presents the average number of researchers benefiting from an MRS award. The average value has been fairly steady over the past five years.

Figure 2.15
Average Number of Researchers per Grant Benefiting from an NSERC Major Resources Support Grant



Source: NSERC database.

Canadian Light Synchrotron: The text box below highlights one of the major facilities supported by the MRS program:

Canadian Light Source Synchrotron (CLS)

Located at the University of Saskatchewan, the CLS generates brilliant beams of light that allow researchers to observe matter down to the atomic level. The facility is one of the most advanced synchrotron facilities in the world.

Research carried out at the CLS has applications in a wide range of fields that are important to Canadian science and industrial research and development. These applications range from the development of advanced materials, to biomedical devices, to the detection of environmental pollutants. Use of the CLS by industry promotes Canada's competitiveness in sectors such as environmental remediation, natural resource utilization, energy, pharmaceuticals, novel materials and nanotechnology. The CLS serves to attract the best academic scientists from all over the world to Canada, while providing a unique training environment for the next generation of Canadian researchers.

Through the Major Resources Support Program, NSERC continues to invest in one of Canada's largest and most important research facilities by helping it expand its operational capacity.

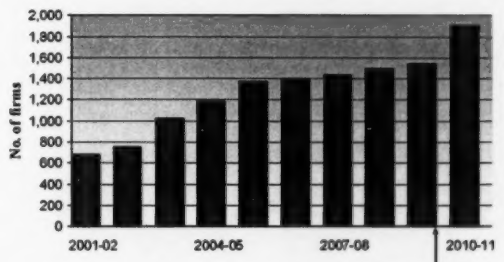
Strategic Outcome Innovation: Productive use of new knowledge in the natural sciences and engineering

NSERC aims to maximize the value of public investments in research for the benefit of all Canadians by promoting the translation of research discoveries into new goods, services and technologies through academic-industry partnerships and training people with the required scientific and business skill sets. Highly skilled, knowledgeable and creative workers are the foundation of an innovative economy.

NSERC also provides Canadian-based companies access to the special knowledge, expertise and educational resources at Canadian postsecondary institutions and offers opportunities for mutually beneficial collaborations that result in industrial or economic benefits to Canada. The industrial partners contribute financially to university research projects, scholarships and fellowships.

In 2010-11, 1,913 firms partnered with NSERC, nearly 400 more than in the previous year (see Figure 2.16). This increase in the number of industrial partners participating in NSERC programs is a result of the implementation of NSERC's Strategy for Partnerships and Innovation. Sixty of the top 100 R&D firms in Canada are currently partners with NSERC.

Figure 2.16
Number of Industrial Partners Participating in NSERC Programs



Source: NSERC database.

Program Activity: Fund Research in Strategic Areas

Program Activity Description

This program activity funds research projects of national importance and in emerging areas that are of potential significance to Canada.

2010–11 Financial Resources ($ millions)

Planned Spending	Total Authorities	Actual Spending
134.00	134.08	108.14

2010–11 Human Resources (FTEs)

Planned	Actual	Difference
22	21	1

Expected Results	Performance Indicators	Targets	Performance Status
Research and training in targeted and emerging areas of national importance is accelerated	Percentage of researchers applying for a strategic grant for the first time (or who have never applied in a specific area)	5 %	Exceeded - In 2010-11, 23% of applicants in the Strategic Project competition were new (see Figure 2.17).

Key Programs		
Program	**Description**	**Expenditures 2010-11 ($ millions)**
Strategic Project Grants	This program accelerates research and training in targeted and emerging areas of national importance. The research is early-stage with the potential to lead to breakthrough discoveries. The program target areas coincide with the government's current priority areas of the environment, energy, information and communications technologies, manufacturing, automotive applications, forestry, fisheries, and health.	57.3
Strategic Network Grants	This program funds large scale, complex research programs that involve multi-sectoral collaborations on a common research topic. The topic to be investigated can be of local concern, requiring a focused local network, or of regional or national importance, requiring a larger, more complex network.	33.5

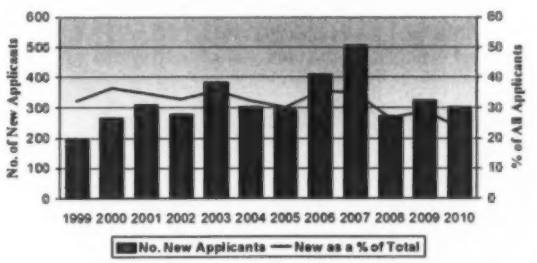
Performance Summary and Analysis of Program Activity

The Strategic Partnerships Programs are designed to focus on NSERC Strategic Target Areas and provide an excellent framework to implement the Federal S&T Strategy.

In 2010-11, a total of $39.0M was leveraged from partners in Strategic Partnership grants in addition to NSERC's funding of $90.8M.The resulting leverage ratio of 43% indicates excellent partner participation. Four hundred industrial partners participated in these programs in 2010-11.

Strategic Projects: An important component of the Strategic Projects program is creating new partnerships between professors and industrial/government partners to facilitate the knowledge and technology transfer process in priority areas. Figure 2.17 presents the number of researchers who have applied for a Strategic Project grant for the first time.

Figure 2.17
Number of New Applicants to NSERC's Strategic Projects Grants Program



Program Activity: Fund University-Industry-Government Partnerships

Program Activity Description

This program activity fosters collaborations between university researchers and other sectors, including government and industry, in order to develop new knowledge and expertise, and to transfer this knowledge and expertise to Canadian-based organizations.

2010–11 Financial Resources ($ millions)

107.57	113.10	122.03

2010–11 Human Resources (FTEs)

47	60	13

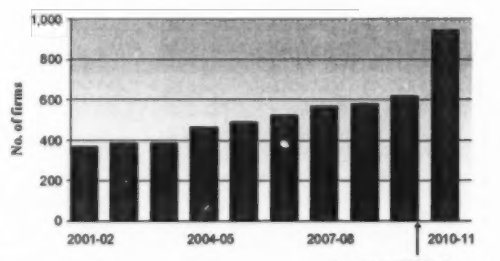
Mutually beneficial collaborations between the private sector and researchers in universities, resulting in industrial or economic benefits to Canada.	(1) Increase in the number of industrial partners supporting and participating in university-industry collaborations (2) Partner satisfaction with research results	(1) Greater than five percent per year (2) 75 percent of partners indicating satisfaction	(1) Exceeded – There was a 58% relative increase in the number of industrial partners participating in university-industry collaborations in 2010-11(Figure 2.18). The average annual growth rate over the past ten years in industrial partner participation has also remained steady at 11%. (2) Exceeded- Post award surveys indicate that over three-quarters (75%) of partners are extremely satisfied with their collaboration with university researchers and students.

Key Programs		
Program	**Description**	**Expenditures 2010-11 ($ millions)**
Collaborative Research and Development Grants	This program gives companies operating from a Canadian base access to the unique knowledge, expertise and educational resources available at Canadian postsecondary institutions and offers opportunities for mutually beneficial collaborations that result in industrial or economic benefits to Canada.	55.5
Networks of Centres of Excellence	The Networks of Centres of Excellence (including the Business-Led Networks) are unique partnerships among universities, industry, government and not-for-profit organizations aimed at turning Canadian research and entrepreneurial talent into economic and social benefits for all Canadians. These nationwide, multidisciplinary and multi-sectoral research partnerships connect excellent research with industrial know-how and strategic investment. They create a critical mass of research capacity by networking researchers and partners across Canada.	48.3

Performance Summary and Analysis of Program Activity

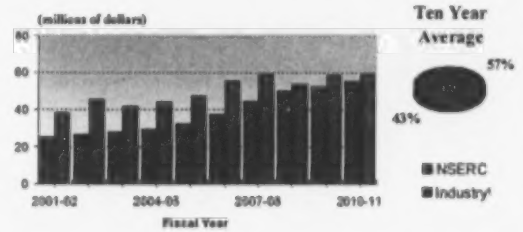
Programs such as the Collaborative Research and Development (CRD) and Engage Grants (EG) give Canadian companies access to the unique knowledge and expertise available at Canadian universities and train students in essential technical skills required by industry. The number of industrial partners participating in these programs grew an impressive 58% since the launch of NSERC's Strategy for Partnerships and Innovation, and has grown by an average of 11% per year over the past decade (see Figure 2.18).

Figure 2.18
Number of Industrial Partners Participating in University-Industry Programs



Collaborative R&D Grants- Industry participation: Industrial contributions related to the CRD Grants are an important indicator of the value NSERC's partners place on university research. A comparison of NSERC funding and industry contributions to the CRD program is presented in Figure 2.19. NSERC's industrial partners contribute more to the CRD projects than NSERC. The ten year average of industry contributions to the CRD program is 57%, whereas NSERC contributions have been 43%.

Figure 2.19
Contributions to NSERC's Collaborative R&D Grants (CRD) Program



1. Best estimate
Source: NSERC

Engage Grants: The purpose of the EG Program is to foster the development of a new relationship between a company and the academic researcher. Results from end of grant reports (see below) show that more than half of participating companies plan future collaborations with their academic partners, and 94% of companies have gained new knowledge or developed new technologies as a result of their EG partnership. Most companies (90%) use or plan to use the new knowledge acquired through the partnership. By building better links between researchers and businesses, NSERC is helping accelerate the translation of knowledge into practical applications.

Progress Report

Engage Grants Program
Companies that participated in the Engage Grants Program reported the following outcomes as a result of collaborative R&D projects undertaken with their academic partner:

- 94% gained new knowledge/technology
- 90% are applying or intend to apply new knowledge
- 68% felt project is a stimulus for future R&D direction
- 59% led to enhanced skill set of personnel
- 49% tied to improvement of existing product
- 40% tied to improvement of existing process
- 43% tied to development of new product
- 75% tied to new business opportunities
- 66% plan to collaborate with same partner on extension of project
- 47% plan to collaborate with same partner on different project

Program Activity: Support Commercialization

Program Activity Description

This program activity supports innovation and promotes the transfer of knowledge and technology to Canadian companies.

2010–11 Financial Resources ($ millions)

Planned Spending	Total Authorities	Actual Spending
40.60	54.34	53.11

2010–11 Human Resources (FTEs)

Planned	Actual	Difference
18	17	1

Expected Results	Performance Indicator	Target	Performance Status
The transfer of knowledge and technology residing in Canadian universities and colleges to the user	Increase in technology and knowledge transfer activities	Five percent growth per year	Exceeded - For the eight years of data available (see Figure 2.21) the average annual growth rates for university commercialization indicators

sector is facilitated			have exceeded 5% except for the number of inventions protected and patents issued.

Key Programs		
Program	**Description**	**Expenditures 2010-11 ($ millions)**
Centres of Excellence for Commercialization & Research	The program funds world-class centres to advance research and facilitate commercialization of technologies, products and services. These centres operate in the priority areas of the S&T Strategy: information and communications technology, environment, energy and natural resources, and health.	17.4
College and Community Innovation Program	The objective of the CCIP is to increase innovation at the community and/or regional level by enabling Canadian colleges to increase their capacity to work with local companies, particularly small and medium-sized enterprises. It supports applied research and collaborations that facilitate commercialization, as well as technology transfer, adaptation and adoption of new technologies.	28.0
Idea to Innovation (I2I) Program	I2I accelerates the pre-competitive development of promising technologies and promotes its transfer to Canadian companies. The program supports R&D projects with recognized technology- transfer potential by providing crucial assistance to university researchers in the early stages of technology validation and market connection.	5.7

Performance Summary and Analysis of Program Activity

Every year, Statistics Canada conducts a survey of intellectual property commercialization in the university sector, which indicates performance in technology and knowledge transfer activities in Canada. It is highly likely that the majority of the commercialization indicators presented in this survey are attributable to overall NSERC funding. In the period from 1999 to 2008, most commercialization activities at Canadian universities have increased. (Figure 2.20)

Figure 2.20: Survey of University Intellectual Property Commercialization in Canada, 1999-2008

Commercialization Activity	1999	2001	2003	2004	2005	2006	2007	2008
Inventions disclosed	829	1,105	1,133	1,432	1,452	1,356	1,357	1,613
Inventions protected	509	682	597	629	761	707	668	820
New patent applications	616	932	1,252	1,264	1,410	1,442	1,634	1,791
Patents issued	325	381	347	397	374	339	479	346
Total patents held	1,826	2,133	3,047	3,827	3,961	4,784	4,185	5,908
New licences	218	320	422	494	621	437	538	524
Total active licences	1,109	1,338	1,756	2,022	2,836	2,038	2,679	3,343
Royalties from licensing ($M)	$18.9	$52.5	$55.5	$51.2	$55.2	$59.7	$52.5	$53.2
Total spin-off companies	454	680	876	968	1,027	1,103	1,174	1,242

Source: Statistics Canada

College and Community Innovation Program: Recent government investment for expanding the innovation capacity of colleges by building bridges between colleges and industry is already showing promising results. NSERC supports commercialization in colleges with key programs such as the College and Community Innovation Program (CCIP). Key findings from a 2010-11 file review of the 18-month progress on the Innovation Enhancement Grants element of the CCIP are presented below.

Evaluation Results

College and Community Innovation Program- Innovation Enhancement Grants

- The eight colleges that received IE grants during the first competition leveraged a total of $1.4 M in cash and $1.3 M in-kind contributions from industry partners.
- As a result of the partnership, all participating colleges developed new products and most (6 in 8 colleges) improved existing products. Half of the colleges improved one or more existing technologies as a result of the program.
- Industry partners reported increased competitiveness, innovation and investment in R&D as expected impacts of their partnership with colleges.
- All colleges reported that their students acquired new skills and increased interest in applied R&D as a result of participating in the program.
- More than half of the colleges anticipated the acquisition of new skills by college faculty and staff, improved teaching and course content.
- Over 76% of the industrial partners anticipate that the partnership will increase their knowledge base.
- Seven out of eight colleges reported that students had expanded existing skills and most (6 in 8 colleges) reported that their students increased their knowledge of the issues and challenges affecting industry.
- All industrial partners were directly involved with the college during the research project, with some receiving training at the colleges.
- All 8 colleges are attracting new partners for research collaborations

Program Activity: Internal Services

Program Activity Description

Internal Services are groups of related activities and resources that are administered to support the needs of programs and other corporate obligations of NSERC. These groups are: Management and Oversight Services; Communications Services; Legal Services; Human Resources Management Services; Financial Management Services; Information Management Services; Information Technology Services; Real Property Services; Materiel Services; Acquisition Services; and Travel and Other Administrative Services. Internal Services include only those activities and resources that apply across all of NSERC.

2010–11 Financial Resources ($ millions)

Planned Spending	Total Authorities	Actual Spending
26.08	28.51	25.75

2010–11 Human Resources (FTEs)

Planned	Actual	Difference
186	170	16

Performance Summary and Analysis of Program Activity

NSERC's corporate strategic action plan is updated every year and presented for approval by Council. Once approved by Council, NSERC's corporate strategic action plan serves as the framework by which NSERC manages and oversees the effective planning and delivery of NSERC's operations and resources.

Currently, NSERC is developing an integrated planning cycle to improve the alignment of corporate priorities and resource allocations and to incorporate risk management. It is also developing a comprehensive corporate plan to support the MAF.

Section III: Supplementary Information

Financial Highlights

Condensed Statement of Financial Position
As at March 31, 2011 ($ thousands of dollars)

	% Change	2010–11	2009–10
Total assets	10 %	9,124	8,272
Total liabilities	13 %	13,279	11,801
Equity of Canada	-18 %	-4,155	-3,529
Total	10 %	9,124	8,272

Condensed Statement of Operations
For the year ended March 31, 2011 ($ thousands of dollars)

	% Change	2010–11	2009–10
Total expenses	2 %	1,081,520	1,059,925
Total revenues	-33 %	2	3
Net cost of operations	2 %	1,081,518	1,059,922

Financial Statements

http://www.nserc-crsng.gc.ca/NSERC-CRSNG/Reports-Rapports/plans-plans_eng.asp

List of Supplementary Information Tables

All electronic supplementary information tables found in the *2010–11 Departmental Performance Report* can be found on the Treasury Board of Canada Secretariat website.[8]

- Details on Transfer Payment Programs (TPPs)
- Green Procurement
- Internal Audits and Evaluations
- Sources of Respendable and Non-Respendable Revenue

8. See 2010–11 Part III—Departmental Performance Reports (DPR): Supplementary Information (Tables), http://www.tbs-sct.gc.ca/dpr-rmr/2010-2011/index-eng.asp

Section IV: Other Items of Interest

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